

From charmers to educators: Using indigenous knowledge for conservation education

**Bahar Dutt
Rachel Kaleta
Vikram Hoshing***

Abstract

The snake charmers of India have for generations used endangered snakes to earn a living. The snake charmers are cruel to the snakes, quite often resorting to techniques such as defanging the snake or blocking the venom ducts, which causes pain to the snake and also affects its ability to survive in the wild.

It is for this reason that the Jogi-Nath community of snake charmers has been the bane of wildlife conservationists. In this paper, using the snake charmers as a case study, the author illustrates the tension between conservation on the one hand and livelihoods on the other. The author presents a model that involves the use of snake charmers for educating people about venomous and non-venomous snakes.

In the last five years we have been involved in developing sustainable livelihood projects with the snake charmers in northern India. Our research has shown that this community, which is characterized by high levels of indigenous knowledge about wild animals and low levels of formal education, has low chances of being absorbed in other occupations where there is heavy competition.

The employment of snake charmers as 'barefoot conservation educators' and recognition of their indigenous knowledge would not only protect their culture and identity but also assist in the protection of thousands of snakes killed by ignorant people. This would be of further importance given that in rural India wildlife films or conservation education programmes are out of the reach of the masses. The reach of the snake charmers is tremendous and street conservation education can play a vital role in sensitizing people to reptiles, which are considered ugly or dangerous.

Introduction

Before radio and television became popular, many itinerant groups would visit villages and entertain rural audiences with their tricks. As occupational groups of puppeteers, acrobats, magicians and fortunetellers, these groups were useful adjuncts to rural societies. One such community was that of the snake charmers. With a cane basket, which housed his two

* Bahar Dutt, Wildlife Trust of India
Rachel Kaleta, independent researcher
Vikram Hoshing, Pune Snake Park
bahardutt@yahoo.com

cobras, the music of his flute, and his ochre-coloured clothes, the presence of the snake charmer was intriguing enough to gather street audiences.

With the introduction of the Indian Wildlife (Protection) Act in 1972, the age-old profession of snake charming was declared illegal. Under Section 9 of the Indian Wildlife (Protection) Act, 1972, 'No person shall hunt any wild animal as specified in Schedules I, II, III and IV of the Act.' Almost all the species of snakes used by the snake charmers are included in the above-mentioned Schedules of the Act, thus virtually rendering their trapping of snakes from the wild as illegal. Further, under Section 39 of the WPA '*wild animals are government property*' and '*No person shall without the previous permission in writing of the Chief Wildlife Warden acquire or keep in his possession, custody or control or transfer to any person by way of gift, sale or otherwise or destroy or damage such government property*'.

The law tough as it was, was much needed, given that in the past, millions of snakes were killed for the snakeskin trade. Statistics for 1968 for instance, indicate that no less than 10 million snakes valued at Rs.107 million were slaughtered for trade. It has been estimated that in 1932 about 2,500,000 skins were exported from India. The species that were commonly used in trade were the rat snake, (*Ptyas mucosus*), the common cobra (*Naja naja*), the checkered keelback (*Xenochropis piscator*), Russell's viper (*Vipera russelii*), the Indian sand boa (*Eryx conicus*), and the olive keelback (*Atretium schistosum*) (Inskipp, 1981).

According to one estimate, the number of snakes that were caught for the snakeskin trade was so large that a tannery in south India was handling 9,000 skins in one day—a figure that was reduced to 3000 by 1970 (Daniel, 1970).

While the snake charmers were not part of the snakeskin trade, they did use live snakes for their itinerant performances. The provisions in the law forbade use of wildlife in any form. As a result of these provisions in the law the snake charmers could no longer ply their traditional trade. Today, the *Sapera Samaj*, a conglomeration of thousands of *saperas* (snake charmers) from across the country, is worried. Raids, seizures of their snakes and arrests for the illegal possession of a wild animal have made it difficult for this traditional community to ply their trade. Despite the strict enforcement of the law, many continue to depend on snake charming for surviving, practicing their craft even after serving jail sentences or paying fines. On the one hand, the caste divisions in the country, their nomadic lifestyle and low levels of education have made it impossible for them to shift to new occupations, and on the other, the strict enforcement of the Wildlife Protection Act has made it difficult for them to ply their traditional trade.

The snake charmers feel persecuted and are scared to put up a *majma* (street performance) with their snakes. No solution, in terms of addressing the livelihoods of this community, was attempted.

The scope of this paper

Five years ago I began research with communities who depend directly on wildlife for their livelihood. The aim was to find out how this tension between conservation laws and livelihoods could be resolved. I was keen to study why the snake charmers continued in their traditional occupation despite the strict enforcement of the law, and how many in the younger generation were engaged in the traditional family occupation. I also wanted to find out the implications for the conservation of the snake species involved.

In this paper I attempt to present a model of how the tension between conservation and livelihoods can be resolved. I shall first present the existing livelihood strategies of the snake charmers and what has brought them into conflict with the wildlife conservation laws. Finally, I shall discuss how this conflict can be resolved: through the employment of snake charmers as 'barefoot conservation educators'. The recognition of their indigenous knowledge would not only protect their culture and identity but also assist in the protection of thousands of snakes killed by ignorant people. This would be of further importance, given that in rural India wildlife films or conservation education programmes are still out of the reach of the masses.

The history and culture of the Jogi-Nath community

The Jogi-nath *saperas* are considered to be the descendants of Guru Gorakhnath (Singh, 1991). There are innumerable legends about Guru Gorakhnath, though there are no records of when he was born, where he hailed from, or any historical facts associated with events in his life. Gorakhnath is considered to be an *avatar* (form) of Lord Shiva and till today the predominant god that the *saperas* worship is Lord Shiva. Guru Gorakhnath had *Nav* (nine) *Naths* and 84 *Siddhas* (accomplished beings) as disciples, human forms created by his own yogic powers to spread his message of yoga and meditation to the world. (Briggs, 1938).

A snake charmer's tools were his snake basket, a *been* (flute) made from bitter gourd, saffronclothing and turban. The snake charmer would set out in the morning with the snake basket on his shoulder and find a bustling street corner to set up shop. The flute was used to gather the attention of people passing by on the street. Once a sufficient audience had gathered, the snakes were let out of the basket. The snakes seemed to be hypnotized by the music of the flute and would raise their hoods, hissing angrily. The snakes were also useful for gathering the attention of potential clients to the herbal medicines that the Jogi-Naths prepare and sell. A *sapera* would carry tiny bottles full of liquids, ointments and powders, which he had prepared himself from medicinal plants he collected from the forest. These would be sold at the end of the performance to the audience that had gathered. Performances over, the snake charmer would then head back home. In addition to the money from the performances people would offer them foodgrains as alms. While they could not be called rich they had enough to sustain themselves and their families with this profession. Snakes were such an integral part of the snake charmers' culture that the most precious ones were offered as dowry or gifts at marriages and festive occasions.

The results of the multi-disciplinary survey

We interviewed snake charmer families in the three states of Haryana, Rajasthan and Uttar Pradesh. Three types of information were collected: **socio-economic, herpetological and**

ethnobotanical. For each type of information, an expert in that discipline was in charge of leading the survey, and a separate questionnaire was devised for each subject. Two criteria were used in the selection of the village. The village should be remote (at least 50 km away from a city centre) and the snake charmers should be willing for the project team to stay with them and to share information openly. This was crucial as snake charming is illegal and therefore the snake charmers are extremely suspicious of outsiders.

We interviewed in particular, snake charmers of the younger generation (in the age group of 18-35) and found that a significant percentage (73 per cent) was still engaged in their traditional occupation. Many snake charmers supplemented their main occupation with other livelihoods. These included occupations like: *been* party¹, daily wage work on agricultural fields or construction sites and selling semi-precious stones.

Persons who were in the age group of 14 and below were considered as being in the 'school-going age' bracket. Persons who were above the age of 18 were considered adults. A comparison of these two age groups shows that as many as 57 per cent of the children in the age group of 14 and below were going to school. This figure was higher than that of the adult population, of which only 29 per cent had gone to school. The education levels among females were significantly lower. In the case of adults who had gone to school, 96 per cent were males while only 4 per cent were females. In the current generation too, education levels among females is considerably lower, with only 15 per cent of female children going to school.

However, 'going to school' did not necessarily indicate that the children were being educated, as the survey showed a high dropout rate for children from this community. This was further corroborated by interviews with the schoolteachers who observed that children from the snake charmer community, especially the male children, often went out with their fathers to work. Thus, though their names were registered in the school, they did not actually attend.

¹ A *Been* Party usually consists of a musical band of seven snake charmers, with each person playing a specific music instrument. The *Been* Party is very popular not just in rural but also in urban areas and people come from far away to make bookings for the *saperas* to play at weddings and social functions. The different instruments used are handcrafted by the *saperas* themselves. These are as follows: the *been* (flute) the *tumba* (small drum-like instrument with one string), the *khanjari* (tambourine) and the *dhol* (the big drums). The *been*, the *tumba* and the *khanjari* are all made by the snake charmers themselves after drying the fruit of a tree that they grow close to their houses.

Figure 1: Occupational profile of the current generation of snake charmers

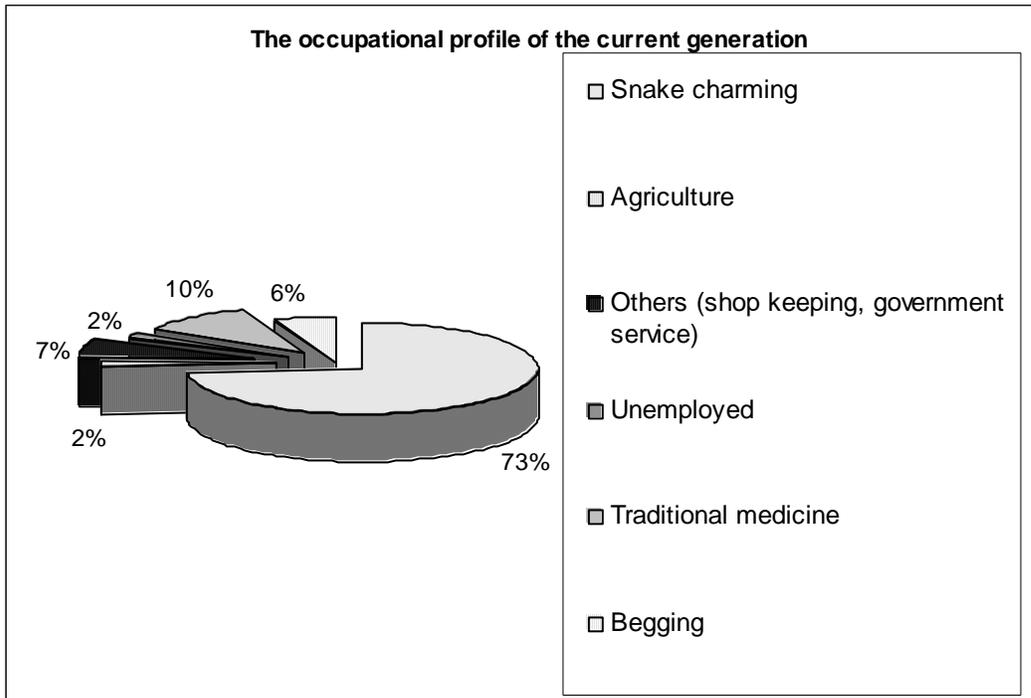
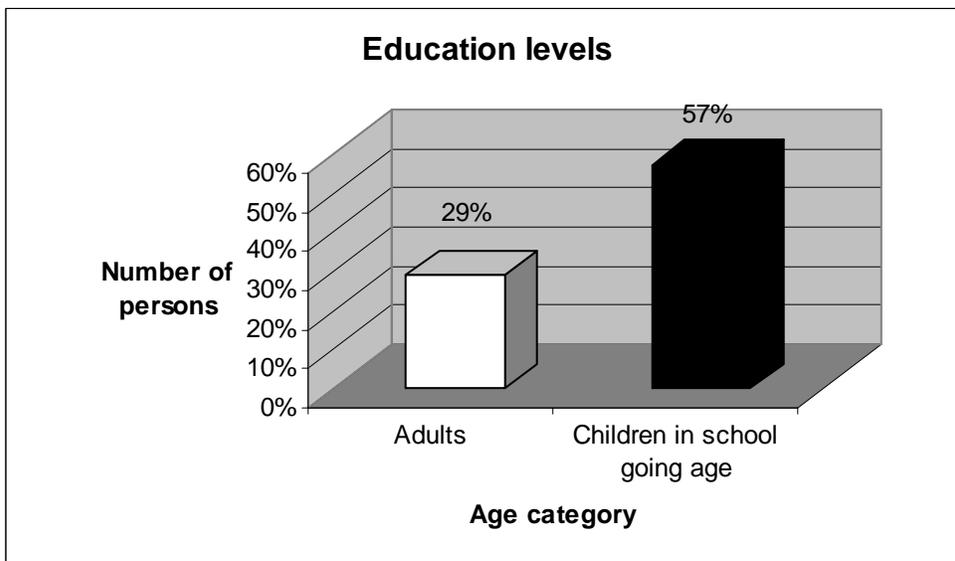


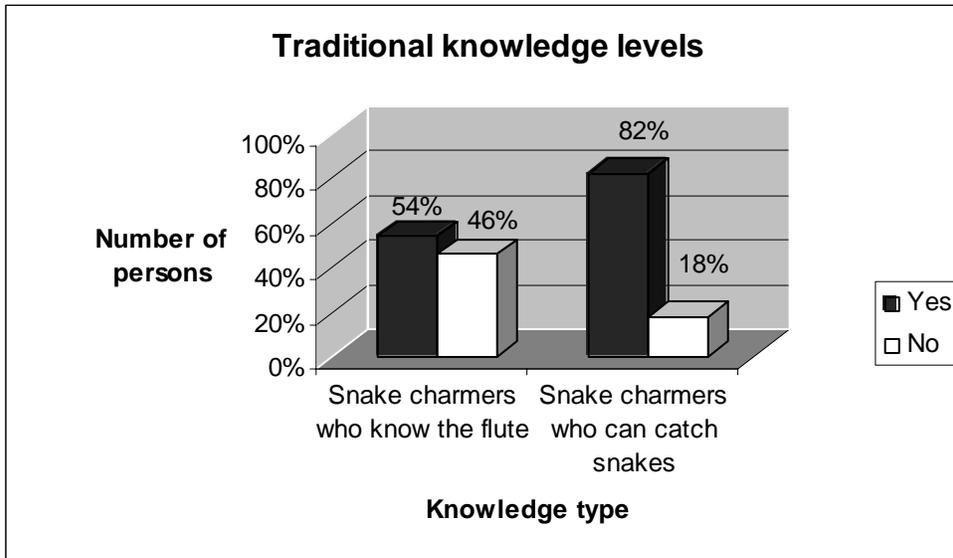
Figure 2: Education levels in the surveyed households of snake charmers



Along with education, the snake charmers were also questioned about their traditional knowledge. Two indicators were used to gauge how much they knew about their traditional occupation. The first indicator was whether they knew how to play the *been* (flute), which

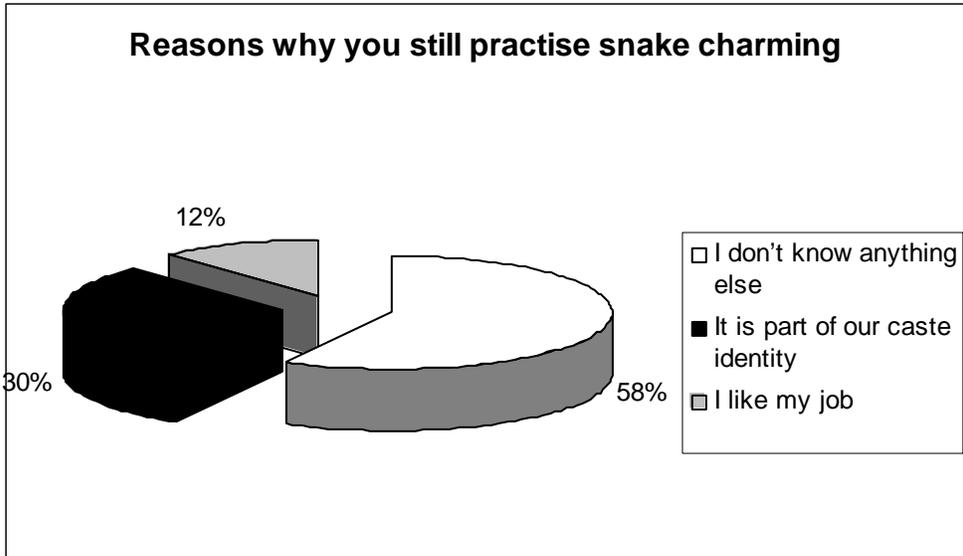
is the traditional instrument of the Jogi-Naths. The second indicator used was whether they knew how to catch snakes. These questions were asked specifically of those in the age group of 18-35 in order to find out how much of the traditional knowledge was being passed on to the next generation. While only 54 per cent knew how to play the *been*, as many as 82 per cent of the *saperas* still practising snake charming could catch snakes. The rest said they could catch snakes with the assistance of the elders in the community.

Figure 3. Traditional knowledge levels of snake charmers



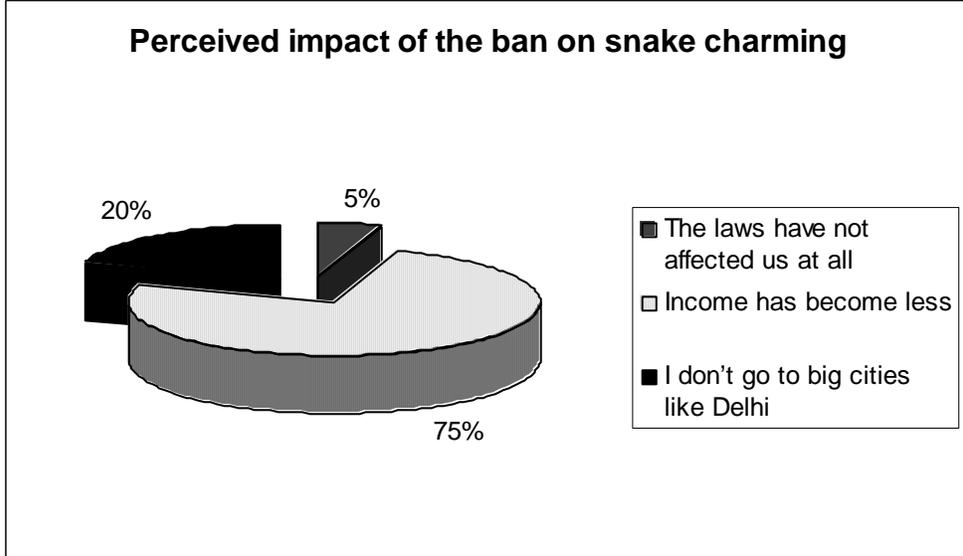
We asked those who were still practising snake charming why they were in this profession. As many as 58 per cent said they were still following their traditional occupation despite a ban on it, as they did not know anything else, 30 per cent said they did it because it was part of their caste identity, while 12 per cent said they engaged in snake charming because they liked their job.

Figure 4 Reasons why snake charmers still practise their profession



Finally, we asked the Jogi-Naths how the ban had affected their occupation. While 75 per cent of the population surveyed reported a fall in their income levels as a result of the ban, 20 per cent stated that they had stopped going to big cities like Delhi where the chances of being caught were higher. A mere 5 per cent of the population surveyed felt that the ban on snake charming had not affected their occupation at all.

Figure 5: Impact of the ban on snake charming on their profession



Snakes and snake culture

The total number of snakes observed in captivity was 135 in 50 households spread across different villages in the three states of Haryana, Rajasthan and Uttar Pradesh. Of the snakes physically observed, eight species were observed in captivity and, the snake charmers had a local name for each (Table 1). For each of the species we observed, the snake charmers had different myths and stories that were propagated to street audiences during a performance. For instance, the ‘dhaman’ or the rat snake is known as a ‘ghodapachad’ as it

is as agile as a horse, while an earth boa is known as a ‘*dumai*’ (a snake with two heads) as its appearance makes it difficult to differentiate which end is the head and which the tail. The species that is considered the most fascinating is the cobra, which is considered an incarnation of Lord Shiva and therefore revered.

Table 1: Percentage of the different species of snakes in captivity

COMMON NAME	LOCAL NAME	SCIENTIFIC NAME	% IN CAPTIVITY (N=135)
Common Cobra	Kala saanp	<i>Naja naja</i>	57%
Monocellate cobra	Pondarai	<i>Naja kaouthia</i>	1%
Rat snakes	Ghodapachad	<i>Ptyas mucosa</i>	13%
Earth boa	Dumai	<i>Eryx johnii</i>	16%
Sand boa	Dhusan	<i>Eryx conicus</i>	1%
Royal snake	Ghurav	<i>Spalerosophis diadema</i>	5%
Red spotted royal snake	Ghurav	<i>Spalerosophis arenerius</i>	2%
King cobra	Elahad	<i>Ophiophagus hannah</i>	3%
Python	Ajgar	<i>Python molurus bivittatus</i>	2%

The three most commonly observed species were the common cobra, *Naja naja* (57 per cent), the earth boa, *Eryx johnii* (16 per cent) and the rat snake, *Ptyas mucosa* (13 per cent). These species are efficient rodent killers and are found quite close to human habitations (Whitaker, 1978). Other species observed were the Sand boa, *Eryx conicus* (1 per cent) and royal snakes, *Spalerosophis diadema* (5 per cent). Less common species such as pythons, *Python molurus bivittatus* and red spotted royal snakes, *Spalerosophis arenerius*, were observed only in 2 per cent of the households. The maximum numbers of snakes (58 per cent) were caught from agricultural fields, and this included species such as the common cobra and the rat snake. As many as 16 per cent of the snakes were trapped from wastelands or village commons, which are ideal habitats for species such as the earth boa. The sand dunes and riverbeds are ideal for species such as the royal snakes and 7 per cent of the snakes were caught from here.

A rapid assessment of the health of the snakes in captivity was undertaken, on the basis of which the snakes were classified as ‘healthy’ or ‘unhealthy’. The health of the snake was further related to time spent in captivity. If it was more than one month, the snake was classified as ‘old’ and if it had been caught less than a month ago it was classified as ‘recently caught’. One month was chosen as the cut-off period as this is the time after

which the body condition of a snake caught from the wild is likely to deteriorate, although there may be inter-species or intra-species differences.

Table 2: Health status of snakes according to time spent in captivity

SPECIES	Recently caught		Old	
	Unhealthy	Healthy	Unhealthy	Healthy
Cobra	0%	100%	80%	20%
Rat snake	11%	89%	89%	11%
Earth boa	0%	100%	63%	37%

Based on this classification, we found that across all species, the general trend was that the snakes were unhealthy if they had spent more than one month in captivity. Especially in the case of venomous snakes, like the common cobra, we found that 80 per cent of the snakes that had been caught more than a month ago were weak and only 20 per cent were healthy. The snakes trapped for performances are generally released back into their natural habitat after 6 months. What is of concern from a conservation perspective is the fact that the physical condition of snakes deteriorates after one month in captivity, thus reducing their ability to survive once released back into their natural habitat.

Reconciling snake-catching skills with conservation

The results of the previous sections have shown that there is a clear conflict between the livelihood needs of the snake charmers and the conservation and welfare needs of the snake species that are trapped. How the use of snakes by the snake charmers affects snake populations in the wild needs to be investigated further and requires more detailed research. This research is expensive and also difficult to do in the case of cryptic reptiles like snakes. Assessing the biological status of snake species can take many years. What needs to be addressed is the dilemma between livelihoods and conservation laws.

What is of immediate significance is the livelihood needs of thousands of snake charmers across the country who have been in conflict with conservation laws. A cause for further concern is that the community has been characterized by low levels of basic education, which makes it difficult for them to be absorbed into other jobs. Furthermore, the snake charmers are fiercely protective of their culture and way of life and any effort to wean them away to other livelihoods will only have a limited impact.

Over the years, as we engaged in a dialogue with hundreds of snake charmers across the country, we realized that what was needed was an acceptance of the skills that the community possesses. Here is a community that has unique skills in handling snakes, in a society where though snakes are revered, they are also treated with great cruelty.

The concept of ‘barefoot conservation educators’

Our research has demonstrated that snake charmers in one year captured a sizeable number of snakes of different species from agricultural fields or rescued them from conflicts with

human beings. We further gathered information about a number of cities such as Bangalore, Delhi, Baroda and Ahmedabad, where the role of rescuing snakes from human habitation is being performed by animal welfare organizations. Not one reported the employment of a snake charmer for this purpose. In return for a small fee, the snake charmers could be organized into groups to respond to such distress calls and to release the rescued snakes into nearby forests.

Snakes rescued by the snake charmers from conflict situations could be used for educating people about venomous and non-venomous species through street education (Romulus Whitaker, Personal communication). Once again, it must be remembered that in rural India wildlife films or conservation education programmes are out of the reach of the masses. The reach of the snake charmers is tremendous and street conservation education can play a vital role in sensitizing people to reptiles that are considered dangerous or ugly. It would be imperative however, to ensure that the welfare needs of the snakes are not compromised and the snake charmers are given training on husbandry techniques so that the snakes are housed properly and are in a healthy condition when they are released into the wild.

It may also be mentioned that a similar exercise was undertaken with the Irulas in the southern Indian state of Tamil Nadu in which the community was organized into cooperatives to extract venom from the snake and then release them back into the wild. The initiative has not only generated employment for the Irulas but has also used their indigenous skills effectively.

Conclusion

To conclude it would be easy to just let snake charming come to an end in an era of globalization and mass communication. On the other hand, a lot can be done to save the traditional skills of this community caught between their past and modern conservation laws. The employment of snake charmers as 'barefoot conservation educators' and the recognition of their indigenous knowledge would not only protect their culture and identity but also assist in the protection of thousands of snakes killed through ignorance.

References

- Briggs, G. W. 1938. *Gorakhnath and the Kanphata Yogis*.
Singh, K. S. 1995. *The Scheduled Castes. People of India, Volume II*. Anthropological Survey of India
Daniel, J. C. 1970. "A review of the present status and position of endangered species of Indian reptiles". IUCN Publication No. 18: 75-76
Inskipp, T. 1981. *Indian trade in reptile skins*. A report by TRAFFIC International. Cambridge: Cambridge University Press
Whitaker, R. 1978. *Common Indian snakes*. New Delhi: Macmillan Press